WHAT IS CLAIMED IS:

1. An uninterruptible power supply having an input connected to an input power source and an output connected to a critical load, the uninterruptible power supply comprising:

   a) a utility disconnect static switch comprising two silicon controlled rectifiers connected in anti-parallel coupled between the input and an input bus;

   b) a battery bus;

   c) an inverter coupled between the battery bus and the output; and

   d) an inverter controller that, upon detection of an input power source fault causing an input voltage magnitude increase, controls the inverter to generate on the input bus a voltage of the same polarity and greater magnitude than the input voltage, thereby commutating the utility disconnect static switch.

2. The uninterruptible power supply of claim 1 further comprising:

   a) a transformer having first and second windings, the first winding series coupled between the utility disconnect static switch and the output, and the second series winding having a first terminal coupled to ground;

   b) a series inverter coupled between a second terminal of the second winding and the battery bus; and

   c) a series inverter controller that, upon detection of an input power source fault causing an input voltage magnitude increase, controls the series inverter to generate on the input bus a voltage of the same polarity and greater magnitude than the input voltage, thereby commutating the utility disconnect static switch.

3. A method of preventing fault propagation through a utility interactive UPS having an inverter and a utility disconnect static switch with an input terminal supplied with an input power signal and an output terminal, the method comprising the steps of:

sensing a characteristic of the input power signal;

detecting a change in the sensed characteristic indicating a fault that causes an increase in the voltage of the input power signal;

controlling the inverter to generate on the output terminal of the utility disconnect static switch a voltage having a polarity the same as and a magnitude greater than the faulted input voltage, thereby commutating the static switch.

4. The method of claim 3 wherein the UPS comprises a second inverter, the method further comprising:

controlling the second inverter to generate on the output terminal of the utility disconnect static switch a voltage having a polarity the same as and a magnitude greater than the faulted input voltage, thereby commutating the static switch.

5. The method of claim 3 wherein the sensed characteristic is a voltage across the static switch.

6. The method of claim 3 wherein the sensed characteristic is a current through the static switch.

7. The method of claim 4 wherein the sensed characteristic is a voltage polarity across the static switch.

8. The method of claim 4 wherein the sensed characteristic is a current direction through the static switch.

9. An uninterruptible power supply having an input connected to an input power source and an output connected to a critical load, the uninterruptible power supply comprising:

a) a utility disconnect static switch coupled between the input and an input bus, the switch two silicon controlled rectifiers connected in anti-parallel;

b) a series inverter coupled between the input bus and a battery bus;

c) a primary inverter coupled between the battery bus and the output; and

d) a series inverter controller that, upon detection of an input power source fault causing an input voltage magnitude increase, controls the series inverter to generate on the input bus a voltage of the same polarity and greater magnitude than the input voltage, thereby commutating the utility disconnect static switch.

10. A method of preventing fault propagation through a utility interactive UPS having a series inverter and a utility disconnect static switch with an input terminal supplied with an input power signal and an output terminal, the method comprising the steps of:

sensing a characteristic of the input power signal;

detecting a change in the sensed characteristic indicating a fault that causes an increase in the voltage of the input power signal;

controlling the series inverter to generate on the output terminal of the utility disconnect static switch a voltage having a polarity the same as and a magnitude greater than the faulted input voltage, thereby commutating the static switch.

11. An uninterruptible power supply having an input connected to an input power source and an output connected to a critical load, the uninterruptible power supply comprising:

a) a utility disconnect static switch comprising two gate commutated switching devices connected in anti-parallel coupled between the input and an input bus;

b) an utility disconnect static switch controller that, upon detection of an input power source fault causing an input voltage magnitude increase, opens the gate commutated switching devices.

c) a clamping circuit coupled to the gate commutated switching devices to minimize the transient voltage caused by opening the fast utility disconnect static switch.

12. The uninterruptible power supply of claim 11 wherein the gate commutated switching devices are power transistors.

13. The uninterruptible power supply of claim 11 wherein the gate commutated switching devices are gate turn off thyristors.

14. The uninterruptible power supply of claim 11 wherein the clamping circuit further comprises:

a first diode having a cathode coupled to an input side of the fast utility disconnect static switch and an anode coupled to a negative battery bus;

a second diode having an anode coupled to the input side of the fast utility disconnect static switch and a cathode coupled to the positive battery bus;

a third diode having an anode coupled to an output side of the fast utility disconnect static switch and a cathode coupled to the positive battery bus; and

a fourth diode having a cathode coupled to the output side of the fast utility disconnect switch and an anode coupled to the negative battery bus.

15. The uninterruptible power supply of claim 11 wherein the clamping circuit further comprises:

a first diode having a cathode coupled to an input side of the fast utility disconnect static switch and an anode coupled to a negative terminal of a capacitor;

a second diode having an anode coupled to the input side of the fast utility disconnect static switch and a positive terminal of the capacitor;

a third diode having an anode coupled to an output side of the fast utility disconnect static switch and a cathode coupled to the positive terminal of the capacitor; and

a fourth diode having a cathode coupled to the output side of the fast utility disconnect switch and an anode coupled to the negative terminal of the capacitor.

16. The uninterruptible power supply of claim 11 wherein the clamping circuit further comprises:

a first diode having an anode coupled to an input side of the fast utility disconnect static switch and a cathode coupled to a first terminal of a capacitor;

a second diode having a cathode coupled to the input side of the fast utility disconnect static switch and an anode coupled to a second terminal of the capacitor;

a third diode having a cathode coupled to the first terminal of the capacitor and an anode coupled to ground; and

a fourth diode having an anode coupled to the second terminal of the capacitor and a cathode coupled to ground.

17. The uninterruptible power supply of claim 11, wherein the clamping circuit further comprises:

a first diode having an anode coupled to an input side of the fast utility disconnect static switch and a cathode coupled to a first terminal of a first capacitor; and

a second diode having a cathode coupled to the input side of the fast utility disconnect static switch and a cathode coupled to a second terminal of a second capacitor;

wherein the second terminal of the first capacitor and the first terminal of the second capacitor are coupled to ground.

18. The uninterruptible power supply of claim 11, wherein the clamping circuit further comprises:

a first voltage limiting diode having a cathode coupled to an input side of the fast utility disconnect static switch; and

a second voltage limiting diode having an anode coupled to an anode of the first voltage limiting diode and a cathode coupled to ground.

19. A method of preventing fault propagation through a utility interactive UPS having a utility disconnect static switch comprising two gate commutated switching devices coupled in anti-parallel, the static switch having an input terminal supplied with an input power signal, the method comprising the steps of:

sensing a characteristic of the input power signal;

detecting a change in the sensed characteristic indicating a fault that causes an increase in the voltage of the input power signal;

opening the static switch to disconnect the input power signal from the UPS.

20. The method of claim 19 wherein the sensed characteristic is a voltage across the static switch.

21. The method of claim 19 wherein the sensed characteristic is a current through the static switch.